

10/505198

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 03/07264

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01N23/225 G01N23/203 H01L21/66

DT09 Rec'd PCT/PTO 19 AUG 2004

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G01N H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 466 934 A (ADAMS BRENT L ET AL) 14 November 1995 (1995-11-14) column 2, line 66 - column 8, line 8 -----	1-3,7, 30-32,37
Y	US 5 557 104 A (FIELD DAVID P ET AL) 17 September 1996 (1996-09-17) column 2, line 66 - column 6, line 51 -----	6,36 1-3, 30-32
X	MCINTOSH J: "Using CD-SEM metrology in the manufacture of semiconductors" JOM, MARCH 1999, MINERALS, METALS & MATER. SOC, USA, vol. 51, no. 3, March 1999 (1999-03), pages 38-39, XP001153203 ISSN: 1047-4838 page 38 ----- -/-	1,4,5, 30,33-35

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority, claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

4 November 2003

Date of mailing of the international search report

02.04.2004

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EL CHEMALI C AND AL: "Multizone uniformity control of a chemical mechanical polishing process utilizing a pre- and postmeasurement strategy" JOURNAL OF VACUUM SCIENCE AND TECHNOLOGY: PART A, AMERICAN INSTITUTE OF PHYSICS. NEW YORK, US, vol. 18, no. 4, pt 1-2, July 2000 (2000-07), pages 1287-1296, XP002217674 ISSN: 0734-2101 page 1289	4,5
A	----- BENNETT M H ET AL: "IN-PROCESS INSPECTION AND METROLOGY OF SEMICONDUCTOR WAFERS WITH THE USE OF AN AUTOMATED LOW-VOLTAGE SEM" MICROBEAM ANALYSIS, SAN FRANCISCO PRESS INC., SAN FRANCISCO, CA, US, 1986, pages 649-652, XP000567217 ISSN: 1061-3420 page 649	4,5
A	----- US 6 298 470 B1 (BREINER LYLE ET AL) 2 October 2001 (2001-10-02) column 6, line 44 - column 7, line 38	4,5
Y	----- BARR D L ET AL: "MICROTEXTURE MEASUREMENTS OF ALUMINUM VLSI METALLIZATION" MATERIALS RESEARCH SOCIETY SYMPOSIUM PROCEEDINGS, MATERIALS RESEARCH SOCIETY, PITTSBURG, PA, US, vol. 391, 17 April 1995 (1995-04-17), pages 347-352, XP000992306 ISSN: 0272-9172 page 347 - page 348; figure 1	6,36
A	----- EP 0 727 659 A (SEIKO INSTR INC ;MITSUBISHI ELECTRIC CORP (JP)) 21 August 1996 (1996-08-21) column 1	7,37

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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-7, 30-37

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-7,30-37

Scanning electron microscope (SEM) adapted to generate crystallographic data from different grains within the crystalline sample; method of using the apparatus.

2. claims: 8-14,38-49

Focused ion beam (FIB) apparatus adapted to provide a contrast image; method of using the apparatus.

3. claims: 15-22,50-60

Combined SEM and FIB apparatus adapted to provide a contrast image and crystallographic data from different grains within the sample; method of using the apparatus.

4. claims: 23-29

Crystallographic standard sample for ion channeling analysis of a crystalline sample.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 5466934	A	14-11-1995	NONE			
US 5557104	A	17-09-1996	AU WO	7463596 A 9715824 A1		15-05-1997 01-05-1997
US 6298470	B1	02-10-2001	US	2002083401 A1		27-06-2002
EP 0727659	A	21-08-1996	JP JP EP US US	2813147 B2 8220005 A 0727659 A2 6355495 B1 6124142 A		22-10-1998 30-08-1996 21-08-1996 12-03-2002 26-09-2000

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